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IMPORTANT:	Mark all	packages and papers with	contract and/c	or ord	der numbers.							1		8
1. DATE OF OR 06/12/20		2. CONTRACT NO. (If any) 68HERD19D0001					a. NAME	OF CC	NSIGNEE	6. SHIP TO:		•		
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ORDER FOR SUPPLIES OR SERVICES SCHEDULE - CONTINUATION

PAGE NO

2

68HERD19F0122

 IMPORTANT: Mark all packages and papers with contract and/or order numbers.

 DATE OF ORDER
 CONTRACT NO.

 ORDER NO.

ITEM NO.	SUPPLIES/SERVICES	QUANTITY ORDERED		UNIT PRICE	AMOUNT	QUANTITY
(a)	(b)	(c)	(d)	PRICE (e)	(f)	ACCEPTEI (g)
	Performance Work Statement (PWS). The total					
	obligated amount for this order is					
	\$76,548.00 for a total of 624 hours.					
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	Partial Payments are allowed.		İ			
	TOCOR: Edward Hudgens Max Expire Date:					
	01/31/2020 InvoiceApprover: Edward Hudgens		İ			
	Alt Invoice App: Elizabeth Sams					
	Admin Office:					
	ITAD					
	US Environmental Protection Agency					
	109 T.W. Alexander Drive					
	Mail Code: AA005					
	Research Triangle Park NC 27709					
	Period of Performance: 06/13/2019 to					
	01/31/2020					
001	Support for the Residential Environment,				76,548.00	
	Allostatic Load and Diseases (RENALDI) Study				·	
	Accounting Info:					
	18-19-C-26XR000-000FK6XR1-2532-26A5C-1					
	826XRE036-001 BFY: 18 EFY: 19 Fund: C					
	Budget Org: 26XR000 Program (PRC):					
	000FK6XR1 Budget (BOC): 2532 Cost:					
	26A5C DCN - Line ID: 1826XRE036-001					
	Funding Flag: Partial					
	Funded: \$0.00					
	Accounting Info:					
	18-19-C-26XR000-000FK7XR4-2532-26A5C-1					
	826XRE036-002 BFY: 18 EFY: 19 Fund: C					
	Budget Org: 26XR000 Program (PRC):					
	000FK7XR4 Budget (BOC): 2532 Cost:					
	26A5C DCN - Line ID: 1826XRE036-002					
	Funding Flag: Partial					
	Funded: \$0.00					
	Accounting Info:					
	18-19-C-26XR000-000FK8XPW-2532-26A5C-1					
	826XRE036-004 BFY: 18 EFY: 19 Fund: C					
	Budget Org: 26XR000 Program (PRC):					
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	Funding Flag: Partial					
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06/12/2019 68HERD19D0001

Performance Work Statement

Contract: 68HERD19D0001 Task Order: 68HERD19F0122

Title: Support for the Residential Environment, Allostatic Load and Diseases (RENALDI)

Study

Period of Performance: Date of Issuance to January 31, 2020

Task Order Contracting Officer's Representative (TOCOR):

Edward E. Hudgens Phone: 919-966-0642

E-mail: hudgens.edward@epa.gov

Alternate TOCOR:

Elizabeth Sams

Phone: 919-843-3161

E-mail: sams.elizabeth@epa.gov

Mailing Address for both:

US EPA 109 T.W. Alexander Drive Mail Drop 58C

Research Triangle Park, NC 27711

Address for Courier (e.g., overnight delivery) for both:

U.S. EPA Human Studies Facility 104 Mason Farm Road Chapel Hill, NC 27514

A. Background and Purpose

The Contractor shall support the longitudinal component of Residential Environment, Allostatic Load and Diseases (RENALDI) Study by organizing the collection of Saliva samples and Questionnaires from participants. This Study has enrolled 120 individuals that participated in the previously conducted cross-sectional RENALDI study. Each participant of the longitudinal study will visit the Human Studies Facility three times during eight months with four-month intervals between visits. In addition, the participants will need to collect saliva samples and fill-out questionnaires at home with one-month interval between data collection dates for a total of six home data collection episodes for each participant (a total of 720 data collection episodes). Participants will be compensated for their home data collection efforts when they visit HSF for their 2nd and 3rd appointments.

The objective of this Task Order is to organize data collection at home. On each home data collection date, study participants will need to collect two saliva samples using Oracol and SalivaBio sampling kits, and to fill-out a questionnaire. Detailed sampling instructions and ID

codes will be provided by EPA. Lists of participants and sampling dates including IDs, home addresses, e-mail addresses and phone numbers will be provided by EPA.

B. General Requirements

In providing support under the tasks described in Section C, the contractor also shall adhere to the following general requirements:

Databases and Computer programs

The contractor shall ensure that the updated databases, computer programs and the corresponding documentation developed under this contract are accessible to the EPA. The contractor shall use software packages that are relevant to particular statistical analysis, generally acceptable by experts as being reliable for the statistical analysis and allow for any necessary data modification. The program shall identify the origin of the input data sets (e.g., version X supplied by EPA on specific date).

Deliverables

The contractor shall provide documentation in computer files, and in hardcopy, upon specific request. When appropriate (e.g., in a report rather than data listing), the contractor shall clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources, and data that support the results and any recommendations. The contractor also shall document alternative methods, procedures, and assumptions that the contractor considered during the performance of this TO. Further, the documentation shall be labeled with the name of the contractor and the EPA contract number. (For example, a memorandum explaining the results of in-home sampling shall be placed on company letterhead).

The contractor shall ensure that documentation is created using, or easily converted to, Agency standard software formats (e.g., Microsoft Office) to facilitate EPA use and review.

Identification at Meetings

At meetings with EPA, the contractor shall state that he/she represents a contractor working for EPA, and wear clear identification identifying his contractor affiliation. Further, the contractor shall prepare briefing materials that clearly indicate that they have been provided by a contractor working for EPA.

Work plan

The contractor shall prepare a combined work plan and QAPP for this Task Order.

Quality Assurance Project Plan (QAPP)

QA Project Plan Requirements

EPA policy requires that an *approved* Quality Assurance Project Plan (QAPP) be in place before any work begins that involves the collection, generation, evaluation, analysis or use of environmental data. The QAPP shall follow applicable project specific requirements outlined in EPA Requirements for QA Project Plans (QA/R-5, EPA 2001;

https://www.epa.gov/sites/production/files/2016-06/documents/r5-final_0.pdf). EPA shall provide a copy of the RENALDI intramural research Quality Assurance Project Plan document (E-EPHD-0031312-QP-1-1; dated Sept 21, 2018). The contractor shall prepare a similar QAPP for the extramural research conducted under this TO.

If **major** changes, as determined by the TOCOR, are needed to an approved QAPP, the contractor shall submit a revised QAPP to EPA, and no data collection activity shall take place until the revised QAPP is approved. When preparing this revised version, the contractor shall ensure that it is written in an active voice and shall include a version history page that summarizes changes made. The contractor also shall provide EPA with copies of any modified SOPs or checklists. EPA will review the revised QAPP and provide the contractor with written approval or comments within 15 days of receiving the contractor's submission.

If **minor** changes, as determined by the TOCOR, are needed to an approved QAPP, the contractor shall submit a revised QAPP to the EPA TOCOR. Data collection activity shall continue regardless of the formal approval. This revised QAPP shall include a version history page that summarizes the changes made. The contractor also shall provide EPA with copies of any modified SOPs or checklists. EPA will review the revised QAPP and provide the contractor with written approval or comments within 15 days of receiving the contractor's submission.

Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. The contractor may claim information in QAPPs as confidential; if the contractor chooses to do so, the contractor shall submit a sanitized (i.e., public) version and an un-sanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version will be included in the public docket for the applicable rulemaking (or other docket or record), and the un-sanitized version will be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the approved QAPP must be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act

requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the contractor should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the contractor designates as confidential so that the EPA TOCOR can easily identify the areas that will require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA TOCOR, the contractor may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA TOCOR will notify the contractor through written technical direction.

Additional QA Documentation Required

In addition to the QAPP requirements described above, all major deliverables (e.g., Technical Support Documents, Study Reports, Study Plans, etc.) produced by the contractor under this work assignment must include a discussion of the QA/QC activities that were or will be performed to support the deliverable. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly progress reports which includes QA activities performed during implementation of this Task Order. These monthly reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

Travel

This Task Order should not require any travel. If any non-local travel directly chargeable to this TO is required, the Contractor shall submit a request to and receive approval from the Contract Level Contracting Officer's Representative prior to the travel.

Other Requirements

The contractor shall provide written notification to the Contracting Officer, Contract Level Contracting Officer's Representative, and Task Order Contracting Officer's Representative when 75 percent of the hours and/or funds have been spent on this Task Order.

C. Technical Support

The RENALDI Longitudinal Study consists of three visits to the EPA Human Studies Facility that are spaced 4 months apart. In between Visit 1 and Visit 2, and in between Visit 2 and Visit 3 the participants are asked to collect two saliva samples and complete a questionnaire a total of six times. The Contractor shall prepare in-home sampling kits identical to those used for RENALDI Study in-home sampling (Contract: EP-D-12-050, WA 4-01). The kit shall consist of the following items: data collection instructions, an Oracol saliva sampling device, a SalivaBio saliva sampling device, ID labels and a questionnaire form. The Contractor shall provide: a Styrofoam shipping container of an appropriate size with an external cardboard box, a "Blue-Ice"

freezer pack, absorbent material, a labeled biohazard containment bag, and a prepaid shipping label. The Contractor shall place the following address on the return label:

Edward Hudgens US EPA 104 Mason Farm Road, Chapel Hill, NC 27514

The contractor shall be responsible for placing the Personal ID and sampling number, and the target sampling date onto the questionnaire prior to shipment to the participant. The target sampling date is exactly one month after their initial visit, with one-month intervals thereafter. The first participant was enrolled on 11/13/2018, therefore their first in-home sample needed to be returned within a seven-day window of 12/13/2018. It is expected that the initial wave of visits to HSF will be complete by May 10, 2019. By this date, the EPA will have target dates of all follow-up visits to HSF and home sampling events for all 120 enrolled participants. It is expected that the last at home sampling episode for the last participant will take place not later than 12/15/2019. To complete all measurements and sampling by mid-December, participants that were enrolled after 4/15/2019 will only receive 5 in-home sampling kits. The Contractor shall send replacement kits to study participants, as necessary. To date, approximately 290 kits have been shipped to participants. The Contractor shall not ship more than 430 kits to participants during the Period of Performance of this Task Order.

The contractor shall contact participants via e-mail and/or text messaging and/or phone calls to remind them of their data collection events. The contractor shall only contact participants. The EPA will provide an IRB-approved test for written communications. When a participant skips a data collection event or ships his/her samples and questionnaire to EPA more than a week after the target sampling data, the Contractor will be asked to notify the participant that the sampling event was missed or samples were not accepted by EPA, and that his/her compensation will be reduced correspondingly (the participants are paid \$ 5 for each saliva sample and \$ 10 for questionnaire for a total of \$ 20 per each completed home sampling episode). A template for such notifications will be provided by EPA. If a participant skips two or more home data collection episodes, the EPA may discontinue his/her participation in the study. In such cases, the Contractor will be asked to send a termination letter to a participant. A template for termination letters will be provided by EPA.

D. Deliverables and Project Schedule

Task No.	Deliverable Description	Deliverable Date
0	Work Plan/QAPP	15 days from receipt of Task
		Order
0	Revised QAPP, if necessary	With Work Plan
0	Monthly Progress Reports with QA	With monthly progress
		reports

1	Status updates with number of kits sent, samples returned, the maximum number of kits that could arrive during a week	Weekly
1	A list of participants with the amount that they should be compensated for successfully returning their in-home samples and questionnaires	Every three weeks
1	A Final Report which details the Contractor's protocols, the number of kits that have been sent to participants and number of samples and questionnaires returned	30 days after the Contractor has shipped their last in-home sampling kit

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NAME OF OFFEROR OR CONTRACTOR
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ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	826XRE036-001 BFY: 18 EFY: 19 Fund: C				
	Budget Org: 26XR000 Program (PRC):				
	000FK6XR1 Budget (BOC): 2532 Cost:				
	26A5C DCN - Line ID: 1826XRE036-001				
	Funding Flag: Partial				
	Funded: \$33,508.00				
	Accounting Info:				
	18-19-C-26XR000-000FK7XR4-2532-26A5C-1				
	826XRE036-002 BFY: 18 EFY: 19 Fund: C				
	Budget Org: 26XR000 Program (PRC):				
	000FK7XR4 Budget (BOC): 2532 Cost:				
	26A5C DCN - Line ID: 1826XRE036-002				
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	Funded: \$26,609.00				
	Accounting Info:				
	18-19-C-26XR000-000FK8XPW-2532-26A5C-1				
	826XRE036-004 BFY: 18 EFY: 19 Fund: C				
	Budget Org: 26XR000 Program (PRC):				
	000FK8XPW Budget (BOC): 2532 Cost:				
	26A5C DCN - Line ID: 1826XRE036-004				
	Funding Flag: Partial				
	Funded: \$16,431.00				
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
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(Signature of person authorized to sign) (Signature of Contracting Officer)		Signature of person authorized to sian)			C	Henry William :			08/22/2019

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 OF

 68HERD19D0001/68HERD19F0122/P00002
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NAME OF OFFEROR OR CONTRACTOR

Westat, Inc.

TEM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	Reason for Modification: Other Administrative				
	Action				
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01) 109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 06/13/2019 to 01/31/2020				
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AMENDMENT OF SOLICITATION/MODIF	ICATION OF C	ONTRACT		CONTRACT ID CODE	PAGE	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE	E DATE 4	4. REQI	JISITION/PURCHASE REQ. NO.	5. PROJECT	NO. (If applicable)
P00003	See Blo	ck 16C				
6. ISSUED BY COE	DE ITAD		7. ADN	IINISTERED BY (If other than Item 6)	CODE	
US Environmental Protection 109 T.W. Alexander Drive Mail Code: AA005 Research Triangle Park NC	, ,					
8. NAME AND ADDRESS OF CONTRACTOR (No., st.	reet county State and	d ZIP Code)	. 94	AMENDMENT OF SOLICITATION NO.		
Westat, Inc.	cot, county, otate une	(1)	x) 9A.	AMENDMENT OF OCCUPATION NO.		
Attn: (b) (4)			9B.	DATED (SEE ITEM 11)		
1600 RESEARCH BOULEVARD						
ROCKVILLE MD 208503129		2	10A	. MODIFICATION OF CONTRACT/ORDER N HERD19D0001	10.	
				HERD19D0001 HERD19F0122		
				. DATED (SEE ITEM 13)		
CODE 049508120	FACILITY COD	DE	0.6	5/12/2019		
		EM ONLY APPLIES TO AN				
The above numbered solicitation is amended as se					nded ∏isr	not extended.
OFFER. If by virtue of this amendment you desire each letter or electronic communication makes refe 12. ACCOUNTING AND APPROPRIATION DATA (If i See Schedule 13. THIS ITEM ONLY APPLIES TO	erence to the solicite required)	ation and this amendment,	and is		pecified.	
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B. THE ABOVE NUMBERED CONTR appropriation data, etc.) SET FOR	RACT/ORDER IS M RTH IN ITEM 14, P	IODIFIED TO REFLECT THURSUANT TO THE AUTHO	HE ADN ORITY (MINISTRATIVE CHANGES (such as changes of FAR 43.103(b).	in paying office	,
C. THIS SUPPLEMENTAL AGREEM	ENT IS ENTERED	INTO PURSUANT TO AUT	THORIT	Y OF:		
D. OTHER (Specify type of modificat	ion and authority)					
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E. IMPORTANT: Contractor X is not		to sign this document and i	return	copies to the issuing	g office.	
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TOCOR: Edward Hudgens Max E	Expire Dat	e: 01/31/2020	Inv	oiceApprover: Edward H	ludgens	Alt
Invoice App: Elizabeth Sams	3					
The purpose of this modific the Contract Specialist to		=	Cor	tracting Officer to Ma	rk Cran	ley and
Contract Specialist respons	sible for	administering	thi	.s contract:		
Kaela Houser		_				
Office of Acquisition Solut	cions (OAS)				
Cincinnati Acquisition Divi	lsion (CAD)				
Continued						
Except as provided herein, all terms and conditions of	of the document refe	erenced in Item 9 A or 10A,				
15A. NAME AND TITLE OF SIGNER (Type or print)				IAME AND TITLE OF CONTRACTING OFFIC	CER (Type or p	orint)
			Mar	k Cranley		
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		INITED STATES OF AMERICA	LECTRONIC	16C. DATE SIGNED
Olan Control of the C			12	at carry	SIGNATURE	04/27/2020
(Signature of person authorized to sign)		İ	1	(Signature of Contracting Officer)		İ

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 OF

 68HERD19D0001/68HERD19F0122/P00003
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NAME OF OFFEROR OR CONTRACTOR

Westat, Inc.

ΓΕΜ NO.	SUPPLIES/SERVICES	QUANTITY		UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
	Houser.Kaela@epa.gov				
	Administrative Contracting Officer:				
	Mark Cranley				
	Office of Acquisition Solutions (OAS)				
	Cincinnati Acquisition Division (CAD)				
	Cranley.Mark@epa.gov				
	LIST OF CHANGES:				
	Reason for Modification: Other Administrative				
	Action				
	Buyer changed				
	from Adrianne C. Wells				
	to Kaela Houser				
	Contracting Officer changed				
	from Lenora Hilliard				
	to Mark Cranley				
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)		ll		
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 06/13/2019 to 01/31/2020				
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IMPORTANT:	Mark all	packages and papers with	contract	and/or ord	er numbers.					1	25
1. DATE OF OR		2. CONTRACT NO. (If any) 68HERD19D0001							6. SHIP TO:		
08/15/20	19	68HERD19D0001				a. NAME (OF CC	NSIGNEE			
2. ODDED NO.			4 050	HOLTION/DI	EFFDENCE NO	\dashv					
3. ORDER NO. 68HERD19	λπ∩17 <i>6</i>			W-19-0	EFERENCE NO.	ITAD					
OOUEKDIS	9101/0		IFK-0	W-19-0							
5. ISSUING OF ITAD	FICE (Add	ress correspondence to)				b. STREE		RESS onmental Prot	-action Ac	rancu	
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Mail Coc											
Research	n Tria	ngle Park NC 2	7709			c. CITY				d. STATE	e. ZIP CODE
						Resea	rch	Triangle Pa	rk	NC	27709
7. TO: (b)	(4)					f. SHIP VI	A			•	
a. NAME OF CO		OR									
Westat,	Inc.							8. TY	PE OF ORDER		
b. COMPANY N	IAME					a. PUI	RCHA:	SE		X b. DELIVER	RY
c. STREET ADD						REFEREN	NCE Y	OUR:			
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										subject to instru	ctions contained on
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						and condit	tions s	pecified on both sides of	I	,	above-numbered
d. CITY ROCKVILL	E.			e. STATE	f. ZIP CODE			the attached sheet, if elivery as indicated.		contract.	
				MD	208503129						
see Sche		PROPRIATION DATA				10. REQU	ISITIO	NING OFFICE			
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f. SERVIC	E-DISABL				1 1 11. 5	DWOSB					
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a. INSPECTION		b. ACCEPTANO						ON OR BEFORE (Da 08/14/2020	(e)		
Destinat	cion	Destinat	ion								
					17. SCHEDULE (See	e reverse for	Rejec	tions)			
ITEM NO.		SUPPLIES	OB SERV	ICES		QUANTITY	UNIT	UNIT PRICE	AMO	LINIT	QUANTITY ACCEPTED
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					financial/con	tracts					TOTAL
	c. CITY	w w	cpc			d. STA	TE	e. ZIP CODE	\$169,	929.00	
	Dı	ırham				NC	:	27711			
22. UNITED	STATES O	DF O	3/15/2	010				23. NAME (Typed)	•		
	ABY (Sig.	0,						Lenora Hil	liard		
2	. (0.9	· ·	Lon	De 4	lielio	SIGNATU		TITLE: CONTRACTING	G/ORDERING OF	FICER	

ORDER FOR SUPPLIES OR SERVICES SCHEDULE - CONTINUATION

PAGE NO

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IMPORTANT: Mark all packages and papers with contract and/or order numbers. DATE OF ORDER CONTRACT NO. ORDER NO. 08/15/2019 68HERD19D0001 68HERD19F0176

ITEM NO.	SUPPLIES/SERVICES	QUANTITY		UNIT	AMOUNT	QUANTITY
(a)	(b)	(c)	(d)	PRICE (e)	(f)	(g)
(a) 001		ORDERED (c)		PRICE		ACCEPTED

Performance Work Statement

I. Title: Support for Steam Electric Effluent Guidelines

Contractor: Westat, Inc. Contract No.: 68HERD19D0001

Task Order 2: 68HERD19F0176

II. Estimated Period of Performance: 08/15/2019 - 08/14/2020

III. Key EPA Personnel:

Task Order Contracting Officer's Representative (TOCOR):

Name: Ronald Jordan
Office: OW/OST/EAD

Address: US EPA, 1200 Pennsylvania Ave, NW (Room 6233W)

Washington, DC 20460

Mail code: 4303T

Telephone #: 202-566-1003

Email: jordan.ronald@epa.gov

Alternate Task Order Contracting Officer's Representative and Technical Expert:

Name: Brian Schnitker
Office: OW/OST/HECD

Address: US EPA, 1200 Pennsylvania Ave, NW

Washington, DC 20460

Telephone #: 202-566-0838

Email: schnitker.brian@epa.gov

IV. Estimated Level of Effort:

1,100 hours

V. BACKGROUND AND PURPOSE

The Clean Water Act (CWA) was enacted to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. 1251(a). In order to achieve this objective, the CWA has, as a national goal, the elimination of the discharge of all pollutants into the nation's waters. The CWA establishes a comprehensive program for protecting our nation's waters. Among its core provisions, the CWA prohibits the discharge of pollutants from a point

source to waters of the U.S., except as authorized under the CWA. Under section 402 of the CWA, discharges may be authorized through a National Pollutant Discharge Elimination System (NPDES) permit. The CWA establishes a dual approach for these permits, technology-based controls that establish a floor of performance for all dischargers, and water quality-based effluent limitations, where the technology-based effluent limitations are insufficient to meet applicable water quality standards (WQS). To serve as the basis for the technology-based controls, the CWA authorizes the EPA to establish national technology-based effluent limitations guidelines and new source performance standards for discharges from categories of point sources (such as industrial, commercial, and public sources) that occur into waters of the U.S.

On September 30, 2015, EPA finalized a rule establishing technology-based effluent limitations guidelines for the Steam Electric Power Generating category (40 CFR Part 423) (hereinafter the "2015 rule"). The 2015 rule set the first federal limits on the maximum allowable levels of toxic metals for most wastewater that can be discharged from power plants. Prior to the 2015 rule, the regulations for the industry that had been established in 1982 did not adequately address toxic metal discharges. The 1982 rule focused on settling out particulates rather than treating dissolved pollutants. New technologies for generating electric power and the widespread implementation of air pollution controls since the early 1980s have altered existing wastewater streams or created new wastewater streams at many power plants, particularly coal-fired plants. Discharges of these waste streams include arsenic, lead, mercury, selenium, chromium, and cadmium. Many of these toxic pollutants, once in the environment, remain there for years, and continue to cause impacts.

The 2015 rule established effluent limitations and standards for multiple waste-streams generated by new and existing steam electric power plants: flue gas desulfurization (FGD) wastewater, bottom ash transport water, combustion residual leachate, flue gas mercury control wastewater, fly ash transport water, and gasification wastewater. Subsequent to the 2015 rule, the EPA Administrator decided in August 2017 to reconsider the effluent limitations guidelines for FGD wastewater and bottom ash transport water. Separately, the Fifth Circuit Court of Appeals remanded the effluent limitations for discharges of combustion residual leachate and legacy wastes.

The steam electric power generating effluent limitations guidelines and standards (ELGs) apply to the electric power plants that generate electricity for distribution and sale from a process utilizing fossil-type fuel (coal, oil, or gas) or nuclear fuel in conjunction with a thermal cycle employing the steam-water system as the thermodynamic medium. The effluent guidelines are codified in the <u>Code of Federal Regulations</u> (CFR) at Title 40, Part 423 (40 CFR Part 423).

The effluent limitations established by the steam electric rule protect public health from many of the toxic metals and other harmful pollutants, including nutrients, discharged by power plants. Steam electric power plants contribute the greatest amount of all toxic pollutants discharged to surface waters by industrial categories regulated under the CWA. The pollutants discharged by

this industry can cause severe health and environmental problems in the form of cancer and non-cancer risks in humans, lowered IQ among children, and deformities and reproductive harm in fish and wildlife. Many of these pollutants, once in the environment, remain there for years. Due to their close proximity to these discharges and relatively high consumption of fish, some minority and low-income communities have greater exposure to, and are therefore at greater risk from, pollutants in steam electric power plant discharges.

Establishing effluent limitations based on statistical analysis of effluent data drives the installation of pollution controls that yield a range of human health benefits by reducing effluent discharges to surface waters and, as a result, ambient pollutant concentrations in the receiving reaches. Recreational anglers and subsistence fishers (and their household members) who consume fish caught in the reaches receiving steam electric discharges are expected to benefit from reduced pollutant concentrations in fish tissue. Examples of human health benefits from reduced exposure to steam electric pollutants via the fish consumption pathway include:

- Reduced exposure to lead:
 - Avoided neurological and cognitive damages in children (ages 0-7) based on the impact of an additional IQ point on an individual's future earnings and the cost of compensatory education for children with learning delays
 - o Reduced incidence of cardiovascular disease in adults
- Reduced exposure to mercury, leading to reduced neurological and cognitive damages in infants from exposure to mercury *in-utero*
- Reduced exposure to arsenic, leading to reduced incidence of cancer cases
- Reduced exposure to cadmium and selenium, leading to reduced incidence of kidney damage
- Reduced exposure to zinc, thallium, or boron, leading to reduced incidence of gastrointestinal problems.

Under this task order, the contractor shall provide technical support in analysis of data to develop effluent limitations and preparation of related documentation, responding to public comments related to proposed effluent limitations, and defending the steam electric rule against legal challenges. Other tasks under this task order may include support in responding to requests for records under the Freedom of Information Act, evaluation of data submitted as part of industry requests for fundamentally different factors (FDF) variances, and analyses of power plant data including data related to treatment of leachate and legacy wastes.

VI. TASKS

The contractor shall provide technical support in analysis of data to develop effluent limitations and preparation of related documentation, responding to public comments related to proposed effluent limitations, and defending the steam electric rule against legal challenges. Other tasks under this task order include support in responding to requests for records under the Freedom

of Information Act, evaluation of data submitted as part of industry requests for fundamentally different factors (FDF) variances, and analyses of power plant data. The tasks below provide the contractor with a description of the deliverables and time frames. The Task Order Contracting Officer's Representative (TOCOR) will use technical direction to provide the contractor with more specific direction on deliverable content and the expected delivery dates. The TOCOR will review all deliverables in draft form and provide revisions and/or comments to the contractor. The contractor shall prepare the final deliverables incorporating the TOCOR's comments.

Task 1. Quality Assurance

Quality Assurance is an important component of EPA's work to assure that minimum quality standards for the use intended are attained. When completing work under this Task Order (TO) the contractor shall identify, attach and follow any internal standard operating procedures (SOPs) for secondary environmental data management and public comment analysis and summary. If necessary, the contractor will supplement these SOPs per the direction of the TOCOR. This TO involves the use of existing data. This TO requires the Contractor to update the Quality Assurance Project Plan (QAPP), prepared under contract EP-C-10-023, as needed to address the data sources and methods covered by this TO. The Contractor shall follow all procedures and requirements set forth for the QAPP, as specified below. The Contractor shall provide EPA with copies of any SOPs or checklists. No field samples will be collected under this TO. QAPPs are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1 A2 (May 2000), and implementing guidance CIO-2105-P-01-0 (May 2000). All projects that involve the generation, collection, analysis and use of environmental data must have an approved QAPP in place prior to the commencement of work. Examples of these environmental data operations are provided in Table 1 below.

The updated QAPP shall provide enough detail to clearly describe objectives of the project supported by the TO; the type of data to be collected, generated, or used under this TO to support the project objectives; the quality objectives needed to ensure that these will support the project objectives; and the quality assurance and quality control activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

The QAPP updates must be consistent with the document, *EPA Requirements for Quality Assurance Project Plans: EPA QA/R-5* (https://www.epa.gov/quality/region-5-policy-development-quality-assurance-project-plans). The QAPP shall include any SOPs or checklists. The Contractor shall comply with all QA/QC requirements set forth in the QAPP.

The Contractor also shall comply with the following procedural requirements related to compliance with the QAPP:

- The Contractor shall notify the TOCOR if it determines that additional changes to the QAPP are warranted (e.g., due to organizational changes, revised technical approaches, or other unforeseen circumstances).
- If, during the Period of Performance of this TO, the TOCOR provides technical direction that revisions to the QAPP are necessary, the Contractor shall follow all procedures and requirements set forth for development of the original QAPP. Changes made shall be reflected on the version (revision) history page of the QAPP. The Contractor also shall provide EPA with copies of any modified SOPs or checklists.
- All QA documentation prepared under this TO, shall be considered non-proprietary, and shall be made available to the public upon request.

The Contractor shall provide electronic copies of the monthly progress reports to the Contracting Officer, Contract Level COR (CLCOR) and TOCOR. Each progress report shall describe the technical work and expenditures for the same time period as the corresponding invoice. The reports shall list by task the amount of work completed and include a table of hours by personnel for each task. The reports also shall identify any problems or difficulties, lessons learned, QA/QC activities, and next steps.

The Contractor shall immediately notify the TOCOR of any problems that may impede performance, impact QA related activities, and any corrective actions needed to solve the problems. The Contractor shall also include this in the Monthly Technical and Cost Progress Reports.

The Contractor shall submit an email that proposes a standardized naming convention and version control for all deliverables associated with the TO. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The TOCOR will review the email and then provide the Contractor with written notification of approval or edits that need to be made. After receiving notification of approval, the contractor shall use this standardized convention for all deliverables associated with the Task Order.

The contractor shall provide the updated QAPP to the TOCOR according to the schedule of Deliverables below.

Table 1 Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third- party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction, and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

1.A Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/ data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public. The Contractor may claim information in QAPPs as confidential; if the Contractor chooses to do so, the Contractor shall submit a sanitized (i.e., public) version and an unsanitized (i.e., confidential) version at the time the QAPP is submitted for approval by EPA. The sanitized version shall be included in the public docket for the applicable rulemaking (or other docket record), and the unsanitized version shall be included in a non-public (i.e., confidential) portion of the docket (or record).

Information contained in the QAPP under this Task Order shall be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information

Disseminated by the Environmental Protection Agency (EPA/260R-02-008, October 2002), https://www.epa.gov/quality/guidelines-ensuring-and-maximizing-quality-objectivity-utility-and-integrity-information

referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractor should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the TOCOR can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed. At the discretion of the TOCOR, the contractors may be requested to prepare predissemination review checklist as described in Appendix B of the Office of Water Quality Management Plan, April 2015. If this is required, the TOCOR will notify the contractor through written technical direction.

Task 2. Statistical Analyses of Sampling Data

The contractor shall perform statistical analysis to assess wastewater concentrations from power plants and related variables. The data supporting the rulemaking will be provided by the TOCOR. It is expected that the contractor will use (with modifications where warranted) computer programs developed for the 2015 rule in analyzing the data specified by the TOCOR. In support of the rulemaking, the contractor shall provide:

- Data Quality: The contractor shall provide technical support in evaluating data quality and integrity. As directed by the TOCOR, the contractor shall identify outliers and questionable data by reviewing data listings and summaries, applying statistical methods, and using graphical methods. The contractor also shall review the data for missing values, censoring patterns, and appropriate units of measure (e.g., milligrams/liter). The contractor shall immediately notify the TOCOR of any deficiencies and/or concerns about the data quality, integrity, and completeness that require EPA resolution.
- Methodologies: The contractor shall provide memoranda describing and evaluating the appropriateness of various statistical methodologies for analyzing the sampling data. With the results of the statistical analyses, the contractor shall provide memoranda that clearly specify the methods, procedures, assumptions, relevant citations, data sources, and data that support the results and recommendations. The contractor also shall document alternative methods, procedures, and assumptions that the contractor considered in the statistical analysis. For all memoranda, the contractor shall provide revisions that incorporate comments from the TOCOR.
- Limitations Derivation and Summary Statistics: The contractor shall provide summary statistics, percentile estimates, graphical analyses, diagnostic evaluations of estimates,

and assessment of the variability of the data. The contractor shall provide the statistical programs and databases upon request. The contractor shall prepare documentation related to development of the limitations, summary statistics, and related analyses.

Task 3. Statistical Review of Documents and Response to Public Comments Support for the Rulemaking

The Contractor shall provide statistical review and comments on documents specific to Steam Electric, as directed by the TOCOR. Such documents may include materials obtained from sources such as EPA's Office of Water or other headquarters offices, EPA Regions, States, other government agencies, industry reports, and professional journals. The technical direction provided by the TOCOR will provide define the scope of the reviews. The contractor shall provide a preliminary assessment in an email message or memorandum within 5 business days after receiving the documents. The final in-depth review in memoranda or reports shall be provided by the contractor within 1 to 3 weeks after receiving the written technical direction.

The contractor shall provide technical support to EPA's efforts to respond to public comments received on the proposed rule. This support may include, but is not limited to, reviewing and assessing issues raised by public comments, providing recommendations to the TOCOR, and drafting responses to the comments. Responses may consist of individual comment responses, or they may be in the form of essays that address major issues or frequently stated comments.

Task 4. Record Materials

The contractor shall provide between 3-5 written reports and documentation suitable for the final rulemaking record, with regard to the data, methods, and conclusions pertinent to the other items under this Task Order, as directed by written technical direction from the TOCOR. The contractor shall provide public documents (e.g., memoranda explaining the results of a statistical analysis) in a format acceptable to the regulations.gov website (e.g., Section 508 compliant pdf files). The contractor also shall provide CBI materials in a format specified by the TOCOR. The contractor also shall provide an index for the record documents, using the format specified by the TOCOR. The contractor should assume there will be three record documents.

Task 5. General Statistical Support

The contractor shall provide additional statistical analyses, statistical review, and research relevant to steam electric project as specified by the TOCOR in written technical directives. With the results of the statistical analyses, the contractor shall provide memoranda that clearly specify the methods, procedures, assumptions, relevant citations, data sources, and data that support the results and recommendations. The contractor also shall document alternative methods,

procedures, and assumptions that the contractor considered in the statistical analysis. For all memoranda and other materials, the contractor shall provide revisions that incorporate revised databases and comments from the TOCOR.

E. Deliverables

Task	Deliverable	Date
Task 1 (Quality Assurance)	Draft updated QAPP	Within 2 weeks of TO award
Task 1 (Quality Assurance)	Final updated QAPP	Within 2 weeks of receiving edits from TOCOR
	Kick-off meeting	Within 1 week of TO award or as directed by TOCOR through technical direction
Task 2	Limitations and summary statistics	As specified by written technical direction.
(Statistical Analyses of Sampling Data)	Documentation supporting limitations & related analyses (e.g., Statistical Support Doc)	As specified by written technical direction.
Task 3	Preliminary assessment for documents	Within 5 business days of receiving documents to review from the TOCOR
(Statistical Review of Documents and Response to Public Comments Support	Final review for documents	Within 1 to 3 weeks after receiving written technical direction (deadline depends on the complexity of the request).
for the Rulemaking)	Review, assess, and draft response to public comments received for the rulemaking	By written technical direction
Task 4 (Record Materials)	Record materials and index	As specified by written technical direction.
Task 5 (General Statistical Support)	Analyses and associated documentation	As specified by written technical direction.
	Technical progress reports	Monthly

General Requirements of the Task Order and Schedule

<u>Confidential Business Information:</u> During the course of the task order, the contractor shall be accessing and evaluating Confidential Business Information (CBI). As such, the contractor shall adhere to EPA's CBI policy and procedures as described in the contract clauses (Clauses H.15-H19 and H-11). The contractor must maintain CBI security clearance to use CBI information. The contractor shall not disclose any CBI to anyone other than EPA without prior written approval

from the TOCOR. The contractor shall, at all times, adhere to CBI procedures when handling industry information. The contractor shall manage all reports, documents, and other materials and all draft documents developed under this task order in accordance with the procedures set forth in our "Office of Science and Technology Confidential Business Information Application Security Plan" (August 2011) or its successor approved plans.

<u>Budget Reporting:</u> The contractor shall report to the TOCOR and CLCOR when 85 percent of the total budget for this task order has been depleted.

<u>Identification as Contracting Staff:</u> To avoid the perception that contractor personnel are EPA employees, the contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. The contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public, the contractor shall refer all interpretations of policy to the TOCOR.

<u>Limitation of Contractor Activities:</u> The contractor shall submit drafts of all deliverables to the TOCOR for review prior to submission of the final product. These drafts will clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support any conclusions and recommendations. The contractor shall incorporate all TOCOR comments into all final deliverables, unless otherwise agreed upon by the TOCOR. The contractor shall adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer, CLCOR, and TOCOR.

<u>Quick Response</u>: Under this PWS, the contractor may be required to provide information for use by EPA for quick responses and analyses of options, issues, and policy decisions. Quick responses are those which require completion in one to five working days.

<u>Travel:</u> For the purpose of preparing a work plan, the contractor shall anticipate 2 in-person meetings with EPA.

<u>Deliverable Formatting:</u> All memos, draft comments, summaries and responses, and chapters are to be provided in electronic form using Word and/or Excel, or, in special cases another software program agreed to by the TOCOR. For deliverables that are in Word or pdf versions of Word documents, that are intended to be shared with management or the public, the contractor shall use decimal align in all tables containing columns of numbers of varying digits, whether decimal places are reported or not. All final materials, e.g., memos, chapters, etc. are to be prepared only after receiving written technical direction from the TOCOR and formatted to be in compliance with Section 508 Amendment to the Rehabilitation Act of 1973.

Table 2. Identification of QAPP Documentation for Existing Data Projects

*When content is sufficiently addressed, section and page number of QAPP will be identified

QAPP Element	Covered in QAPP*	NA	Explanatory Comments
A1. Title & Approval Sheet			
Project title	Х		See title page
Organization's name	Χ		See cover and p.1
Effective date and/or version identifier	Х		See title page & Revision History, Need update.
Dated signature of Organization's project manager	Х		See title page. Update when QAPP revised
Dated signature of Organization's QA manager	Χ		See title page. Update when QAPP revised
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)	Х		See title page. Update when QAPP revised
Revision History	Х		See Revision History page. Update when QAPP revised
A2. Table of Contents			
Includes sections, figures, tables, references, and appendices	Х		p. i
Document control information indicated (when required by the EPA Project Manager and QA Manager)	Х		p. 4
A3. Distribution List			
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization	Х		p. 1,2. Need update
A4. Project/Task Organization			
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.	Х		p. 1. Need update
Organization chart shows lines of authority & reporting responsibilities	Х		p. 2. Need update
Project QA manager position indicates independence from unit collecting/using data			Need to address
A5. Problem Definition/Background			
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested	Х		p. 4
Identifies project objectives or goals	Х		p. 1
Historical & background information	X		p. 1
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives	X		p. 10
A6. Project/Task Description			
List measurements to be made/data to obtain	Х		pp. 7-11
Notes special personnel or equipment requirements	Χ		p. 10
Provides work schedule	NA		Covered by Work Plan
A7. Overall Quality Objectives & Criteria			,
States overall quality objectives and limits needed to support the project goals and objectives cited in A5	Х		p. 10
A8. Special Training Requirements/ Certifications			
Identifies specialized skills, training or certification requirements		Х	
Discusses how this training will be provided/the necessary skills will be assured and documented		Χ	

QAPP Element	Covered in QAPP*	NA	Explanatory Comments
A9. Project-level Documents & Records			
Describes process for distributing the approved QAPP and	Χ		p. 1
other planning documents (and updates) to staff			
Identifies final work products that will result from the project			Covered by Work Plan
Describes the process for developing, reviewing, approving, and	Χ		Section 4
disseminating the final work products and individuals			
responsible for these processes			
B1. Data Needs			
Detailed list/description of the specific data elements needed to support project goals	Х		Section 4
Description of the scope of the data elements that you need		Х	
(e.g., data supporting specific treatment options vs. the full		^`	
range of options, data supporting the entire country vs. a			
specific geographic region)			
If project includes development or update of a project	Χ		Section 4
database, QAPP identifies and defines each database field			
B2. Potential Data Sources			
Identifies and describes potential sources of the existing data		Х	NA. Data will be provided by EPA and
needed (e.g., photographs, topographical maps, facility or			criteria for selection covered by another
state files, census data, meteorological data, publications,			contract/QAPP
etc.) and the rationale for their use			
If literature searches are used, describes the search engines		Χ	
that will be used and key search terms			
If databases or models will be used, describe the database	Χ		p. 10
(or model) in terms of who developed it and operates it and			
the type of data it contains			
For other potential sources, describe the potential sources &		Χ	
rationale for considering or using each one			
B3. Criteria for Selecting Data Sources			
Identifies each criterion that will be used to determine if the		Х	NA. Data will be provided by EPA and
candidate data sources listed in B2 will meet your needs, and			criteria for selection covered by another
how each criterion is defined. (Criteria vary by project;			contract/QAPP
examples include reliability, age, applicability, quantity,			
format, and others) Explains rating system used to evaluate source against each		Х	
criterion		^	
B4. Data Value Selection Approach			
For data sources that meet the criteria identified in B3:		Х	
Describes the criteria and procedures that will be used to		\ \ \	
determine which value(s) identified in the acceptable sources			
are most appropriate for use in the project			
For data that do not meet these pre-established criteria but		Χ	
are the only data available, explains how the decision to use			
such data will be made and documented			
B5. Resolving Data Gaps			
Describes the process for identifying and addressing data	Х		Section 4
gaps that still exist after candidate data sources have been			
evaluated and appropriate data values have been identified			

QAPP Element	Covered in QAPP*	NA	Explanatory Comments
Describes the process that will be used to address any new		Χ	
data needs revealed during the data gathering process (i.e.,			
additional data elements not previously considered)			
B6. Data Gathering Documentation and Records			
Describes how results of the source selection and the data	Χ		Section 4
value selection will be documented, including any sources or			
values that were rejected and the rationale for not using			
them			
For data that are deemed acceptable and that will be used,	Х		Section 4
explains how each data element will be associated to its			
original source citation (i.e., bibliographic information,			
telephone contact reports, email messages, etc.)			
C1. Standardization of Data Elements			
Describes the process to ensure that units and other key	X		Section 4
measures are captured and standardized (or otherwise made			
comparable) in the database			
If the project requires that all fields be standardized to a		Χ	
single set of units (e.g., US dollars for economic data, μg/L for			
chemical data), identifies the standard units that will be			
required for each data element Identifies the procedures for converting data reported in			
other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these			
conversions are performed correctly			
If standardization of data elements is not needed, explains			
the process for ensuring that data presented in varying units			
are comparable enough for use in the project and that			
project staff members and other data users will be able to			
readily identify differences in units			
C2. Data Entry			
Explains the process for manually entering selected data into	Х		Section 4
the project database, who will be responsible for such data			
entry, and the QC strategies that will be used to ensure that			
the database accurately and completely captures the data as			
presented in the original source			
C3. Merging or Uploading Electronic Data from Existing			
Sources			
If data are available electronically and will be uploaded or	Χ		Section 4
merged into the project database: describes the procedures			
that will be followed to ensure that errors are not introduced			
during the upload/merge process and that the final database			
reflects the original dataset(s)			
C4. Data Review			
Describes the process for ensuring that the data have been	Х		Section 4
recorded, transmitted, and processed correctly			
C5. Data Storage and Manipulation			
Describes how the existing data will be stored	Х		Section 4
Describes who will be responsible for access to and	X		Section 4
maintenance of the stored data			

QAPP Element	Covered in QAPP*	NA	Explanatory Comments
Describes how the existing data will be incorporated with other project data to support the project goal/decision to be made		Χ	
Describes the QC strategies that will be employed to ensure that the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation	X		Section 4
D1. Data Quality Verification and Data Quality Reporting			
Describes the process for verifying that the final set of data			
meets the overall criteria originally specified for the project			
Describes how these determinations will be documented and			
reported			
For data that don't meet the pre-established specifications,		Χ	
explains the process for determining if they are usable and			
how such decisions will be documented			
D2. Use/Analysis of the Existing Data			
Provides details regarding the exact means in which the data		Х	
will be used to meet project objectives			
Includes an explanation or list of the information to be			
calculated and the data elements that will be used to make			
those calculations			
Includes applicable calculations and equations (if known) or			
explanations of how they will be developed			
Includes plans for excluding outliers Describes a stickless that will be used to a pour the date. The stickless that will be used to a pour the date.	V		Castian A
Describes activities that will be used to ensure the data analyses are being implemented as specified and will support	Х		Section 4
project objectives			
Explains procedures for identifying and notifying appropriate			
personnel if changes to the originally planned procedures are			
warranted, and the process for approving, documenting and			
implementing such changes			
D3. Final Verification of Data Analysis and Reconciliation with			
User Requirements			
Describes the process for reviewing the final work product to	Х		Section 4
ensure that the work was generated in accordance with the			
QAPP, and that the work product addresses the overall			
project goals and objectives			
Describes how the results of this assessment will be	Х		Section 4
documented			
Describes how any limitations of the data or data analyses	Χ		Section 4
that were used to prepare the final work product will be			
documented and communicated			

Table 3 QAPP Elements in an Existing Data Gathering Project

The following table is intended to be used in conjunction with Table 2 and includes a brief summary of things to include when addressing each element. For some elements, it also includes things to avoid or exclude and examples. Note that while it is essential to address all applicable elements in the QAPP, it is not essential to address each one separately; elements may be combined to minimize redundancy and streamline readability and utility.

QAPP						
Section	QAPP Element					
	A1. Title and Approval (Traditional QAPP Element A1) Identifies key project officials and documents their approval of the QAPP. Use a short, descriptive title with key words that will help establish the relevance of the project to future searchers. May either use a separate title and approval page or include approval lines on the title page. If using a separate title page, include the project/grant/contract identifier on the title page; if using a single page for both the title and approvals, include the project/grant/contract identifier in the title itself. Include a Revision History page that lists the date, number, and a brief description of each revision.					
nt	A2. Table of Contents (Traditional QAPP Element A2) Helps reviewers and users quickly locate different information within the QAPP. Identify each section and the page number where those sections can be found. List all attachments and appendices. Tables and figures also should be identified in the Table of Contents for long QAPPs (e.g., more than 25 pages). SOPs may be included as attachments or appendices to the QAPP. If SOPs or other data gathering, analysis, or evaluation protocols are not documented in, or attached to the QAPP, they must be readily available to the project team and QAPP reviewers through some other means. When including SOPs, QAPP should clearly state that the SOP has been reviewed and found to be acceptable for use with or without modification. A3. Distribution List (Traditional QAPP Element A3)					
ageme	Names of key project personnel responsible for project implementation and/or funding, and who should have the QAPP. Can include placeholders for project roles that have not yet been filled.					
A. Project Management	A4. Project/ Task Organization (Traditional QAPP Element A4) Identifies individuals involved with major aspects or phases of the project and their project responsibilities. Include roles and responsibilities of all significant project participants, their contact information, and their respective organizations. (Note "role" is different from "responsibility." Role refers to a person's position on the project, whereas responsibility refers to the duties assigned to that role.) Include a project organization chart that visually shows the hierarchy, lines of communication, and lines of authority among various groups. It is useful to provide a general chart showing relationships among various organization followed by separate charts that show the details for each organization. No need to include each and every technical staff member who will support the project, but make an effort to include each role (e.g., statistician, data analyst).					
	A5. Problem Definition & Background (Traditional QAPP Element A5) Background information and statement of specific problem to be solved, decision to be made, or outcome to be achieved. Describe your project goal and project objectives. Note that identifying a project goal (or "purpose") is different than identifying your project objectives. A project goal provides the answer to the general question "Why am I doing this?" In contrast, project objectives are what will be achieved to address the goal. Example text: Project Goal - Determine if effluent guidelines for X Industrial Category need to be revised. Project Objectives - Identify treatment systems currently in use by the industry, determine if other treatment techniques are available, characterize current pollutant loads from the industry, etc. Note: By clearly defining project objectives, you are laying the ground work for identifying the types of data you need to collect.					

QAPP Section

QAPP Element

A6. Project/ Task Description (Traditional QAPP Element A6)

Summary of work to be performed and products, project schedule, maps, tables, etc., showing locations This should be a brief description of the project, and should summarize what kind of data you will be gathering, where and how you will obtain this data, your schedule (in terms of significant milestones). In some projects, it may be helpful to include general maps of the area of interest. It is not necessary to include project budgets in the QAPP, although it may be helpful to note if the design was constrained by project budgets and/or schedules. Avoid pasting work plan (deliverables) schedules in this section; instead, summarize major milestones/ overall schedules, but clearly delineate when technical aspects of each phase of the environmental data operations will begin and end. Don't create excessive redundancy by including extensive detail here; details are addressed elsewhere. QAPP length is not important; QAPP substance is. Example text: EAD and its support contractor will gather existing data from a variety of sources in order to develop technical and economic profiles of the Airport Deicing Industry. Data to be gathered includes information about: airport sizes and types; geographic areas in which deicing operations are performed; deicing processes (e.g., types of operations, chemicals used in deicing fluids, climatic influences on deicing operations); toxicity of deicing fluids or chemicals used in the fluids; waste management strategies (e.g., containment and treatment of deicing fluids); pollution prevention techniques (e.g., recycling deicing fluids, techniques for use of less harmful chemicals or lower volumes of deicing fluids); environmental impacts of airport deicing; pollutant loadings; industry trends in use, containment, and treatment of deicing fluids; and financial information (ownership, management, accounting, potential cost impacts of regulation). The project team will examine a variety of potential sources for such information. Such sources may include: EPA databases (e.g., the Permit Compliance System, Toxic Release Inventory, STORET); other EPA offices that have collected data from this industry or data pertaining to pollutants discharged by this industry; State, local and other federal agencies; and other organizations that may be identified during the course of the data identification and collection process (e.g., federal agencies in other countries that are responsible for air transportation and air transport associations). Data gathering will begin immediately upon approval of this QAPP and continue throughout fiscal year XXXX.

A7. Overall Quality Objectives and Criteria (Traditional QAPP Element A7)

Overall quality objectives for the project and the performance criteria to achieve those objectives/ Outputs from the systematic planning process. Focus your discussion on the overall quality needed to support the project goals and objectives you described in A5. (Specific criteria used for individual data elements will be addressed in subsequent sections.) EPA's Information Quality Guidelines can be used to help determine the level of quality needed for the intended use of the data.

QAPP **QAPP Element** Section A8. Special Training and Certifications (Traditional QAPP Element A8) Any specialized training or certifications needed by personnel; plans for providing, documenting, and assuring this training. Include specialized skills, training or certification requirements only (e.g., security clearance, CBI training) and plans for ensuring and documenting that these training requirements are met. For existing data projects, identify specialized expertise needed to evaluate the relevance and appropriateness of the existing data to your project needs. (In a primary data gathering study, you have the opportunity to design the study to collect representative samples of interest. To do so, you bring appropriate experts into the design, e.g., engineers, hydrogeologists, fisheries biologists, etc. The same is true for existing data, except that you need their expertise to evaluate the data that was already collected and determine if it meets your needs.) It is generally not necessary include non-specialized training or skills (e.g., chemistry degree, field sampling experience). Example scenario: A project team is interested in studying the health of juvenile fish in the Colorado River. A literature search reveals a study on Colorado River Cutthroats. The paper was published the previous year in a peer reviewed journal, and it indicates that the data were fully validated. The project team considers it to be directly relevant to their needs because it involves a native species in the river, is recent data, relies on validated data, and was peer reviewed. However, the team never consulted a fisheries expert, who would have pointed out that the study targeted fish of harvestable size and weight, which are adults, not juveniles. In this case, the QAPP might state that someone with fisheries expertise is necessary for this project and has been identified (or describes the plan for obtaining this necessary skill set). A9. Project-level Documentation and Records (Traditional QAPP Element A9) Description of process for distributing approved QAPP and other planning documents to staff, a list of final work products that will result from the project (e.g., final report, QA report, Technical Development Document, project database, proposed regulation), a description of the process and individuals for developing, reviewing, approving, and disseminating those work products. Explain how all project quality assurance documents and records (e.g., the QAPP, SOPs, required forms or checklists) will be managed. This includes how they will be stored and made available to staff. Explain how updates will be implemented and distributed. Identify the final work products that will be produced from the project and explain who will be responsible for developing, reviewing, and approving the products. If they will be disseminated to the public, explain the method that will be used and the processes that will be employed to ensure it is ready for such dissemination. Focus on high-level project planning documents and records and on final work products. Day-to-day recordkeeping and documentation is addressed elsewhere in the QAPP. B1. Data Needs (New/Modified QAPP Element) Detailed description of the existing data needed to fulfill the project goals. In the Project/Task Description

3. Data Gathering

Detailed description of the existing data needed to fulfill the project goals. In the Project/Task Description above, you summarized the kind of data you will be gathering. In this section, you will provide a detailed list of the specific data elements that will be needed to support the project goals. Include a description of the scope (e.g., range of treatment options, geographic range) of the data elements that you need. If your project includes the development or update of one or more project databases, identify and define each field in the database(s). The intent of this section is to ensure that all QAPP reviewers, approvers, and users understand exactly what data are needed for the project and to avoid misunderstandings about what a particular data element means. If you have already documented some or all of these fields in another source, such as a database population plan, a data element dictionary, an SOP, etc., it is acceptable to reference that document. However, any documents referenced in the QAPP must be either readily available to all members of the project team and to QAPP reviewers and approvers, or they must be attached to the QAPP.

QAPP Section

QAPP Element

B2. Potential Data Sources (New/Modified QAPP Element)

Description of the potential data sources that may be used, and the rationale for considering these sources. Potential sources of previously collected data that should be identified here may include photographs, topographical maps, background information from facility or state files, census data, meteorological data, publications, etc. If a literature search will be conducted, describe the search engines that will be used and the key words that will be searched on. If databases will be used, describe each database in terms of who developed and operates it and the type of data it contains. Define your specific search/query parameters. Similarly, describe any other potential sources of data and the rationale for considering or using them. Source selection is often an iterative process with projects that rely on existing data; do not forget to update the QAPP if you need to change your initial source selection strategy. The updated QAPP should describe your original process as well as your revised approach and the reasons for revising the approach.

B3. Criteria for Selecting Data Sources (New/Modified QAPP Element)

Description of the criteria that will be used to evaluate the candidate data sources, and how you define these criteria. The criteria will vary according to your needs. Examples of possible criteria might include the reliability, applicability, age, and format of the data source, or even the quantity of data available in the candidate data course. Regardless of the criteria that you choose, explain how you define each one. Explain your rating system for each criterion (e.g., a quantitative numeric scale or a qualitative ranking scale). Example: A project team is developing a new database to provide information about potential water system contaminants. The database will include basic identifying information (e.g., chemical name, common name, CAS Registry number, chemical class,), physical characteristics (e.g., molecular weight, density, vapor point, octanol water partition coefficient), usage (e.g., predominant sources, availability, annual production, history of usage), fate/transport characteristics, etc. The database will be entirely populated with existing data from a number of sources, including: published references sources, such as the Merck Index and the CRC Handbook of Chemistry and Physics; databases from EPA, CDC, OSHA, DOE, or other federal agencies; other online databases (e.g., World Health Organization's International Program on Chemical Safety website and database), and the published literature. The team defines the "applicability" of each data source on the following characteristics: (1) the relevance of the information to the intended use of the data in the new database (e.g., a contaminant's properties in a water matrix versus other matrices), and (2) the number of data elements for any given contaminant(s) that can be populated using the source. It then establishes a high, medium, or low ranking system, in which sources that provide five or more directly relevant data elements for a chemical are rated as "high," sources that provide two to four directly relevant data elements for a chemical are rated as "medium," sources that provide only one directly relevant data element are ranked as "low,", and sources that provide no directly relevant data elements are rates as "Not Applicable" and, therefore, excluded from further consideration. Similarly, the team decides to define the reliability of the data based on whether the information is current and peerreviewed, how far removed the data are from the original source, and whether the data are from a preferred and widely used source, and established a similar high/medium/low basis for ranking such data against their reliability criteria.

QAPP Section

QAPP Element

B4. Data Value Selection Approach (New/Modified QAPP Element)

Description of the approach that will be taken for selecting specific data values from the selected data sources. Once you have screened your potential sources, you may find that more than one source offers the data element(s) you need, that only one source provides values for the data elements of interest, or that some sources address multiple data elements of interest. Describe the criteria and procedures that will be used to determine which value(s) are most appropriate for use in your project. For data that does not meet the pre-established specifications, explain how you will decide if it is usable, and how you will document the decision. Example: For the project described in the B3 element example above, if a data element is available from only one source, and the value is deemed to be reliable, the source is used. If, however, the only available source yields a questionable data value, the contractor will consult with EPA and additional experts, and if it is used, will apply a flag to identify the limitation (e.g., not peer reviewed, documentation of methodology incomplete, conditions not directly comparable to conditions of interest). If a data source provides more than one value for a particular data element, and some are recommended values, some are measured values, and some are estimated values, the contractor will use the recommended value, provided it is scientifically valid. If no recommended value is available, the contractor will use the measured value. The contractor will only use estimated values when no recommended or measured values are available, and the estimated values will be flagged as such in the database. If multiple different values are available for the condition of interest, the contractor will consult the primary literature to determine how each of the conflicting values was generated and to determine which value is most appropriate for use. Preference will be given to values where the explanation is most complete and applicable for the new database.

B5. Resolving Data Gaps (New/Modified QAPP Element)

Description of process for identifying and addressing data gaps that exist after candidate data sources have been evaluated and appropriate data values have been identified. Projects involving the use of existing data are often cyclical in nature because it is difficult to gather all the data needed in a single step. In most cases, an initial round of data gathering yields important information, but also leaves data gaps that were not located as well as additional data needs that were not previously considered. Describe the process the project team will use to identify data gaps and address those gaps. Also, describe the process the team will use to identify new data elements that may be needed. If your processes for addressing data gaps will involve the same data source and data value selection approaches previously described, it is not necessary to repeat those in detail. Instead, refer the reader to the applicable sections and focus describing any new processes, sources, activities, or criteria that will be considered.

QAPP **QAPP Element** Section B6. Data Gathering Documentation and Records (New/Modified QAPP Element) Description of processes that will be used to document the sources and data that were identified, considered and either rejected or accepted. Describe how you will document the source selection results, including any sources that you decided against and the rationale for not using that result. Failure to document your rationale for excluding data sources can lead to accusations of 'cherry picking' the data. Where possible, use checklists that capture each of the applicable source/data selection criteria listed above to document your assessment of each candidate source/data element. For data that are deemed acceptable and will be used in the project, explain how you will associate each data element to its original source citation. This includes bibliographic information, telephone contact reports, email messages, etc. Example text: The contractor will use checklists to document the results of each source and data element assessment. Examples of these checklists are provided in Figures 1 and 2. The contractor will design the project database so that the data source citations and links for each data element can be maintained within each table. The contractor also will design the database so that the entire bibliography, which represents all sources of data in the database, can be viewed and printed as a report by contractor and EPA staff. Data limitations also will be documented directly in the database with the corresponding data value. Any data determined to be of questionable quality will flagged using standardized data flags (e.g., not peer reviewed, documentation of methodology incomplete). All records will be retained throughout the duration of the contract and for X years after contract closeout. All data sources will be stored with the date the source was accessed, and respective data reports, checklists, and evaluation criteria rankings. The contractor will maintain all data that was obtained in hardcopy format in a physical filing system; an electronic filing system will be used to maintain all original electronically obtained data. Both filing systems will include the complete data source citation, date of access, method of access, and, if applicable, Internet links. Some electronic data may be in the form of a compact disk (CD), in which case, a duplicate copy of the data (CD) will be maintained in the hard copy filing system as well as the electronic filing system. C1. Standardization of Data Elements (New/Modified QAPP Element) Description of the process that will be used to ensure that units and other key measures are captured and standardized in the database. The units of measurement should be reported for all data sets. If project needs dictate that all fields be standardized to a single set of units (e.g., U.S. dollars for economic data, ug/L for chemical data), identify the standard units that will be required for each data element. If C. Data Management standardization of data elements will not be needed, explain the process for ensuring that the data presented in varying units are comparable enough for use in the project and that project staff members will be able to readily identify differences in units. When considering standardized units, consider both (1) simple imperial/metric conversions (e.g., ounces to grams) and (2) whether the units all can really be converted to a common meaning. Identify the procedures that will be employed to convert data reported in other units to the standardized units, including any rounding or truncating procedures, and procedures for ensuring these conversions are performed correctly. If you already described your process for ensuring comparability of units in Section B as part of your data selection criteria, you may reference that process rather than repeat it here. Example scenario: Some results may be reported in wet weight while others are

in dry weight; these are not directly comparable without additional information. How will this be handled? Similarly, some results will be reported in μ g/L and others will be reported in η g/L. How will this be

handled?

QAPP Section

QAPP Element

C2. Data Entry (New QAPP/Modified Element)

Description of process for manually entering data obtained from existing sources. Explain the process for manually entering selected data into the project database, who will be responsible for such data entry, and the QC strategies that will be taken to ensure that the database accurately and completely captures the original source data. Example text: Two data entry processes will be used for this project. A dual data entry process will be used to capture data elements that are that are presented consistently for a large body of data. For example, this process will be used to capture data obtained from industry survey responses, because the responses are all presented in the same format and are all responding to the same questions. Two clerical staff members will independently enter the designated data from each form into a data entry database created for this purpose. The Database Administrator will then run an automated comparison of the two data sets and generate an error report that identifies any discrepancies. The Data Entry Supervisor will use this report along with the original data set to identify and implement the corrections that are needed. Once the corrections have been made, a printout of the final, corrected database will be provided to the Data Population Manager for review and approval. A copy of the original error report also will be provided so that the Data Population Manager can confirm the corrections made were appropriate. A second data entry approach will be employed for data elements that are not presented consistently, and therefore, require enough subject matter knowledge to identify the data element of interest within the source (e.g., a published journal article that describes treatment technologies). In such cases, the original data entry will be performed by junior members of our technical staff team, and the Data Population Manager will perform a QC review of 10% of the data entered into the database. When performing these QC checks, the Data Population Manager will review the selected data values against their original source to verify that data elements are being populated with the appropriate data and that the data is being transcribed accurately. Regardless of which approach is used, corrective action will be taken to correct all errors identified as well as any systemic problems revealed (e.g., multiple reviewers show an inconsistent understanding of the data value needed for a particular field, one reviewer shows consistent problems in reversing numbers).

C3. Merging or Uploading Electronic Data from Existing Sources (New/Modified QAPP Element)

Procedures that will be followed to ensure that errors are not introduced during the upload/merge process and that the final database reflects the original dataset. If data are available electronically, and will be merged into the project database, explain the procedures that will be followed to ensure that errors are not introduced during the merging process and that the final database accurately reflects the original dataset(s).

C4. Data Review (New/Modified QAPP Element)

Description of the process for ensuring that the data have been recorded, transmitted, and processed correctly. Examples include checking data entry for transcription, calculation and reduction errors, and checking data transfers to determine if there are any deficiencies, such as missing data elements, registry errors, or shifting of data fields. If you already described your process for such reviews in Sections C2 or C3, it is not necessary to repeat the process here. Instead, you may point the reader to those sections.

C5. Data Storage and Manipulation (New/Modified QAPP Element)

Description of how the existing data will be stored, who will be responsible for access and maintenance, and how it will be incorporated with other project data to support the project goal/decision to be made. This element is used to document the hardware, software, and personnel requirements for managing and incorporating the existing data into the project, and the QC strategies that will be employed to ensure that the integrity of the data is not compromised during data storage, access/retrieval, updates, or other manipulation.

QAPP Section

Data Quality Assessment and Use

QAPP Element

D1. Data Quality Verification and Data Quality Reporting (New/Modified QAPP Element)

Description of your process for verifying that the final set of existing data to be used for the project is sufficient to meet your project needs. Describe how you will determine if the overall data meets the criteria originally specified for the project, and how you will document and report these determinations. For data that don't meet the specifications, explain how you will determine if they are usable and how you will document the decision. Note that this differs from Criterion B5, which focused on the completeness of individual data sets gathered from given sources. Section D1 addresses the overall quality of the data set you have gathered/assembled. Example scenario: After reviewing all data gathered for the project, you identify some data elements that do not meet the original specifications, but are, the "best available" from the sources identified. In some cases, it may not be feasible (e.g., due to cost or schedule limitations) or possible (e.g., the data just do not exist) to obtain existing data for the data elements in question nor is it possible to collect primary data that would address these gaps. Explain how you document decisions to use such data, and how you will include the description of the data quality limitations in the work product that results from the use of those data (e.g., directly in the project database, in the final project report, in a separate QA report).

D2. Use/Analysis of the Existing Data (New/Modified QAPP Element)

Description of how the data will be summarized or analyzed to meet the project objectives. In the "Problem Definition & Background," you described the "big picture" use of the data. In this section, you will provide details regarding exactly how you will use these data (e.g., calculations, statistics). Explain or list what you will calculate (e.g., mean, median, % removal, a curve of cost vs. flow, etc.) and the data elements that will be used to make those calculations. Include applicable calculations and equations (if known) or explain how you will develop them. If you plan to exclude outliers, explain how you will define outliers and the basis for excluding such data. If exact methodologies that will be used to analyze the data may need to be developed or modified during the course of data analysis, explain the process by which such methodologies will be documented (e.g. via memoranda, analysis plans, email), who is responsible for reviewing/approving their use, and how the methodologies will be checked to ensure they yield the desired products. Describe the activities you will use during the data analysis stage ensure the analyses are being implemented as specified and will support the project objectives. Explain your procedures for identifying and notifying appropriate personnel if changes to the originally planned procedures are warranted, and the process for approving, documenting, and implementing such changes. Example scenario: Explain if and how "not detected" results will be used in calculating average concentrations, explain the specific procedures used to calculate pollutant loads, identify the production parameter(s) that will be used to calculation production normalized loads, describe how percent recycle and percent removals will be calculated, and explain how cost curves will be developed.

D3. Methodology Documentation and Conceptual Review (New/Modified QAPP Element)

Procedures for documenting the methods used for data analysis, and how those methodologies will be reviewed during the initial stages of work development, before the analyses are executed. In some cases, the exact methodologies that will be used to analyze the data may need to be developed and/or modified during the course of data analysis. This section is used to document the process by which such methodologies will be documented (e.g., via written memoranda, analysis plans, email), who is responsible for reviewing/approving their use, and how the methodologies will be checked to ensure they yield the desired products.

QAPP Section	QAPP Element
	D4. Technical Review of the Data Analysis (New/Modified QAPP Element) Process for ensuring that the data analysis is being performed correctly. Describe the activities you will use during the development and execution of the data analysis stage of the project to ensure the analyses are being implemented as specified in the QAPP and the analyses will support the project objectives. Explain your procedures for identifying and notifying appropriate personnel if changes to the originally planned procedures are warranted, and the process for approving, documenting, and implementing such changes.
	D5. Final Verification of Data Analysis and Reconciliation with User Requirements (New/Modified QAPP Element) Procedures for verifying that the analysis results and work products are usable and support the needs of the project. Describe the process for reviewing the final work product to ensure that the work was generated in accordance with the QAPP, that the work product addresses the overall project goals and objectives (i.e., it provides the information needed to answer the key questions). Describe how you will evaluate whether the analysis results "make sense" in the context of the project. Explain how you will document the results of this assessment, and how you will describe and communicate any limitations of the data or the data analyses that were used to prepare the final work product and that there will be a QA section in the technical support document or other document that addresses the data collection, production, analyses and use.

AMENDMENT OF SOLICITATION/MODIFIC	ATION OF CONTRACT		CONTRACT ID CODE	PAGE	OF PAGES
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. RE0	UUISITION/PURCHASE REQ. NO.	5. PROJECT	 Γ NO. (If applicable)
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Contract Specialist responsi	ble for administ	ering th	is contract:		
Kaela Houser					
Office of Acquisition Soluti					
Cincinnati Acquisition Divis	ion (CAD)				
Houser.Kaela@epa.gov					
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NAME OF OFFEROR OR CONTRACTOR

TEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Administrative Contracting Officer: Mark Cranley Office of Acquisition Solutions (OAS) Cincinnati Acquisition Division (CAD)				
	Cranley.Mark@epa.gov				
	LIST OF CHANGES: Reason for Modification: Other Administrative Action				
	Buyer changed from Adrianne C. Wells to Kaela Houser				
	Contracting Officer changed from Lenora Hilliard				
	to Mark Cranley				
	Payment: RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711				
	Period of Performance: 08/15/2019 to 08/14/2020				

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8. NAME AND ADDRESS OF CONTRACTOR (No., street	county, State and ZIP Code)	() 9A	. AMENDMENT OF SOLICITATION NO.		
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		10	B. DATED (SEE ITEM 13)		
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Westat, Inc.

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	Reason for Modification: Other Administrative				
	Action				
	TOCOR (Task Order Contracting Officer's				
	Representative) changed to : Paul Shriner				
	Invoice Approving Official changed to : Paul				
	Shriner				
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ORDER FOR SUPPLIES OR SERVICES

PAGE NO

SCHEDULE - CONTINUATION 2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER CONTRACT NO. ORDER NO. 68HERD19D0001 68HERD19F0210 08/20/2019 ITEM NO. SUPPLIES/SERVICES QUANTITY UNIT UNIT AMOUNT QUANTITY ORDERED PRICE ACCEPTED (d) (a) (f) (b) (c) (e) (g) The total amount for this order is \$93,221.00 for a total of 538 hours. Incremental funding in the amount of \$57,000.00 is obligated to this order. The to be funded amount for this order is \$36,221.00. TOCOR: Samantha Fontenelle Max Expire Date: 09/20/2020 InvoiceApprover: Samantha Fontenelle Alt Invoice App: Lisa Larimer Admin Office: ITAD US Environmental Protection Agency 109 T.W. Alexander Drive Mail Code: AA005 Research Triangle Park NC 27709 Period of Performance: 08/20/2019 to 09/20/2020 0001 Statistical and Technical Support for Fish Advisory Analyses Accounting Info: 19-20-B-28E-000B42-2505-1928CES032-001 BFY: 19 EFY: 20 Fund: B Budget Org: 28E Program (PRC): 000B42 Budget (BOC): 2505 DCN - Line ID: 1928CES032-001 Funding Flag: Complete Funded: \$57,000.00

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

Statistical and Technical Support for Fish Advisory Analyses PERFORMANCE WORK STATEMENT Contract #: 68HERD19D0001, Task Order 3: 68HERD19F0210

I. BACKGROUND

This task provides for statistical and technical support on the analysis of National Health and Nutrition Examination Survey (NHANES) data related to fish consumption for the following environmental contaminants: mercury; per- and poly fluoroalkyl substances (PFAS); polybrominated diphenyl ethers (PBDEs); polychlorinated biphenyls (PCBs); and arsenic.

II. SCOPE OF WORK

This purpose of this Task Order (TO) is to complete National Health and Nutrition Examination Survey (NHANES) analyses, reports and manuscript; and publish the PFAS manuscript in a peer-reviewed journal. A work plan and Quality Assurance Project Plan (QAPP) are required for this TO. The Contractor shall perform the following tasks:

Task 1 – Work Plan and Monthly Progress Reports

The contractor shall prepare a work plan and cost estimate (by task) including proposed level of effort, budget, and supply relevant information on the roles and responsibilities of any subcontractor and submit it to the Contracting Officer (CO), Task Order Project Officer (TOPO), and TOCOR in accordance with contract requirements. The content of the Work Plan shall be in accordance with the terms of the contract and responsive to the requirements of this TO.

The Contractor shall also provide monthly progress reports to include a breakdown by task of the hours expended in the reporting period and description of work progress to date.

Task 2 - Quality Assurance Project Plan (QAPP)

The Contractor shall provide a Quality Assurance Project Plan (QAPP). Updates to the QAPP shall include the addendum and a QAPP revision history page following the signature page. The Contractor shall ensure and document all activities in accordance with Agency guidance and in compliance with EPA metadata standards. All deliverables shall include a summary describing compliance with the QAPP. The Contractor shall ensure: (1) the products developed under this TO comply with the Information Quality Guidelines (IQG) and (2) the IQG checklist is completed for each deliverable, with all supporting documentation for each checklist item, before the final materials are produced. Revisions to the QAPP shall be due within 14 calendar days of the receipt of this TO.

A final QAPP and IQG checklist shall be due upon completion of the work under this Task Order.

Task 3 – NHANES Data Analysis

- a. The Contractor shall also update the NHANES analyses and reports for arsenic and mercury to include more recently released NHANES data cycles. Based on comments provided by the EPA, the Contractor shall revise and finalize the NHANES reports for PBDEs, arsenic, mercury and PCBs.
- b. The Contractor shall incorporate EPA's comments and finalize the PFAS manuscript for publication in a peer-reviewed journal. The contractor shall submit the manuscript to a journal that does not charge publication fees. If the manuscript is rejected by the first journal and it must be submitted to a journal which charges publication fees, the Contractor shall be responsible for paying the publication fee. The Contractor shall revise the manuscript based on comments received from the journal reviewers and resubmit for publication in the timeframe specified by the journal.
- c. Deliverable dates for this task shall be as specified in written technical direction from the TOCOR.

Task 4 – Statistical Analysis Quick-Turnaround Support

The Contractor shall support EPA with responding to technical and statistical analysis questions on previously prepared reports such as the *Estimated Fish Consumption Rates for the U.S. Population and Selected Subpopulations* (NHANES 2003-2010).

III. DELIVERABLES AND SCHEDULE

Special reporting requirements include documentation of all sources and contacts to fully reference the sources of all information. In addition to the deliverables specified for each task above, the Contractor shall prepare a final report summarizing all analyses, recommendations, reports, or comments provided during the Period of Performance of this Task Order. The final report shall provide documentation for any electronic data sets that may have been generated. Updated versions of any amended databases, data dictionaries, data sets, programs or documents, as well as all graphics and tables generated under this Task Order, are due at the completion of the TO and in a format that has been approved by the EPA. Copies of the monthly reports, conference call agendas and the agreed upon action items shall be included as documentation of the Task's and the overall TO course and progress. All programming documentation is due at the end of this TO. This includes copies of all statistical programs, statistical code and/or logs of output. The EPA may require the Contractor to provide the programming code used for specific data analysis or quality assurance tasks prior to the end of the TO or Period of Performance (POP) for EPA review and QA activities. This report shall include suggestions for potential future work or improvements to the deliverables for any Task that has not been completed during the POP. A draft report is due 14 calendar days before the end of the TO. A final report, incorporating any EPA comments, is due at the end of the TO. Files submitted on CD or DVD shall have an accompanying Table of Contents in a format that has been approved by the EPA.

All deliverables shall be provided to the TOCOR electronically in accordance with the timeframes

specified in Table 1. Electronic files shall be provided in PDF and in the original software. The contractor shall use Microsoft Office and Adobe Acrobat (online version) software for developing all electronic copies of deliverables. All documents to be posted on EPA's website shall be webready and 508 compliant.

Table 1. Schedule of Benchmarks and Deliverables

Task	DELIVERABLE	DUE DATE
Task 1	Workplan and Monthly Progress Reports	As specified in the
		contract
Task 2	Quality Assurance Project Plan	
	QAPP	Within 14 calendar days
		of receipt of TO
	Final QAPP and Information Quality Guidelines checklist	Upon completion of the
		work under this TO
Task 3	NHANES Data Analysis	
(a)	Revised NHANES reports	As requested by TOCOR
(b)	PFAS manuscript	As requested by TOCOR
	-	and publication journal
(c)	Final NHANES reports	As requested by TOCOR
Task 4	Statistical Analysis Quick-Turnaround Support	As requested by TOCOR

IV. REPORTING

All documentation and reporting under this TO shall be in accordance with contract requirements. Monthly progress reports and invoices shall be itemized to show hours and dollars by task.

V. TRAVEL

Any travel chargeable to this TO shall be allowable only in accordance with the limitations of base IDIQ award as well as FAR 31.205-43 and FAR 31.205-46 and must be approved by the EPA TOPO prior to travel taking place.

VI. CONTRACTOR IDENTIFICATION

Contractor personnel shall always identify themselves as Contractor employees by name and organization and physically display that information through an identification badge. Contractor personnel are prohibited from acting as the Agency's official representative.

The Contractor shall refer any questions relating to the interpretation of EPA policy, guidance, or regulation to the TOCOR.

VII. MEETINGS, CONFERENCES, TRAINING EVENTS, AWARD CEREMONIES, AND RECEPTIONS

All appropriate clearances and approvals required by Agency policy in support of all conference related activities and expenses, including support of meetings, conferences, training events, award

ceremonies and receptions, including the form 5170 for all meetings costing more than \$20,000, shall be obtained by the EPA TOCOR as needed and provided to the CO. Work under conference-related activities and expenses shall not occur until this approval is obtained and provided by the TOCOR.

VIII. NOTICE REGARDING GUIDANCE PROVIDED UNDER THIS TASK ORDER

The Contractor shall not engage in activities of an inherently governmental nature such as the following:

- (1) Formulation of Agency policy
- (2) Selection of Agency priorities
- (3) Development of Agency regulations

Should the Contractor receive any instruction from an EPA staff person that the Contractor ascertains to fall into any of these categories or goes beyond the scope of the contract or TO, the Contractor shall immediately contact the EPA TOCOR or the CO.

IX. PERIOD OF PERFORMANCE

The period of performance for this Task Order is 08/20/2019 - 09/20/2020.

X. EPA CONTACTS

TOCOR: Samantha Fontenelle

Standards & Health Protection Division

US EPA (4305T) Washington DC 20460

202-566-2083

Fontenelle.samantha@epa.gov

Alternate TOCOR: Lisa Larimer

(202) 566-1017

Larimer.lisa@epa.gov

Office of Water Information Quality Guidelines Checklist for

Non-Influential Information

- The information to be disseminated is covered under The Guidelines.
- The information is in compliance with EPA's Quality System and other related policies.
- The information is in compliance with Office of Water's Quality Management Plan.
- The information is consistent with the OMB definition of "quality," meaning the information has a high level of objectivity, utility, and integrity.
- Objectivity: information is presented in an accurate, clear, complete, and unbiased manner, and as a matter of substance, is accurate, reliable, and unbiased.
- Integrity: the information cannot be compromised through corruption or falsification because it is secure from unauthorized access or revision.
- Utility: the information is useful to the intended users.
- Meets "transparency" quality standard: the public can understand the source of the information and how conclusions were reached on the information.

B.3 EPA-B-32-103 - LIMITATION OF GOVERNMENT'S OBLIGATION

- (a) Severable services may be incrementally funded. Non-severable services shall not be incrementally funded. Contract line items 0001 are severable and may be incrementally funded. The total amount of line item 0001 is \$93,221.00. For this item, the sum of \$57,000.00 of the total price is presently available for payment and allotted to this contract. The to be funded amount for this item is \$36,221.00.
- (b) For items identified in paragraph (a) of this clause, the Contractor agrees to perform up to the point at which the total amount payable by the Government, including reimbursement in the event of termination of those items for the Government's convenience, approximates the total amount currently allotted to the contract for those items. The Contractor shall not continue work on those items beyond that point. Subject to the clause entitled, "Termination for Convenience of the Government", the Government will not be obligated, under any circumstances, to reimburse the Contractor in excess of the amount payable by the Government in the event of termination of applicable contract line items for convenience including costs, profit, and estimated termination costs for those line items.
- (c) Notwithstanding the dates specified in the allotment schedule in paragraph "(h)" of this clause, the Contractor will notify the Contracting Officer, in writing, at least 5 days prior to the date when, in the Contractor's best judgment, the work will reach the point at which the total amount payable by the Government, including any cost for termination for convenience, will approximate 85% of the total amount currently allotted to the contract for performance of the applicable items. The notification will state (1) the estimated date when that point will be reached and (2) an estimate of additional funding, if any, needed to continue performance of applicable line items up to the next scheduled date for allotment of funds identified in paragraph (a) of this clause, or to a substitute date as determined by the Government pursuant to paragraph (d) of this clause. If after such notification, additional funds are not allotted by the date identified in the Contractor's notification, or by an agreed substitute date, the Contracting Officer will terminate any item(s) for which additional funds have not been allotted, pursuant to the clause entitled "Termination for Convenience of the Government".
- (d) The parties contemplate that, subject to the availability of appropriations, the Government may allot additional funds for continued performance of the contract line items identified in paragraph (a) for this clause and will determine the estimated period of contract performance which will be covered by the funds. If additional funds are allotted, the Contracting Officer will notify the Contractor in writing. The Contractor will not resume performance of the contract line items identified in paragraph (a) until the written notice is received. The provisions of paragraphs (b) through (d) of this clause will apply in like manner to the additional allotted funds and to the new estimated period of contract performance. The contract will be modified accordingly.
- (e) The Government may at any time prior to termination allot additional funds for the performance of the contract line items identified in paragraph (a) of this clause.

- (f) The termination provisions of this clause do not limit the rights of the Government under the clause entitled "Default". The provisions of this clause are limited to the work and allotment of funds for the contract line items set forth in paragraph (a) of this clause. This clause no longer applies once the contract is fully funded.
- (g) Nothing in this clause affects the right of the Government to terminate this contract pursuant to the contract clause entitled "Termination for Convenience of the Government".
- (h) The parties contemplate that the Government may obligate funds to this contract in accordance with the following schedule:

RECAPITULATION:

Task Order 3 - 68HERD19F0210 - Total Amount of Task Order is \$93,221.00

Base Period	Prior Amount	This Action	New Amount	To be Funded Amt.
Base TO				
Award	\$ 0.00	\$ 57,000.00	\$ 57,000.00	\$ 36,221.00

AMENDME	NT OF SOLICITATION/MODIFIC	ATION OF CO	ONTRACT		CONTRACT ID CODE	PAGE	OF PAGES
2. AMENDMEI	NT/MODIFICATION NO.	3. EFFECTIVE	DATE	4. REC	UISITION/PURCHASE REQ. NO.	5. PROJECT	NO. (If applicable)
P00001		See Bloo	ck 16C	PR-0	W-20-00044		
6. ISSUED BY	CODE	CAD		7. ADI	MINISTERED BY (If other than Item 6)	CODE	
26 West Mail Co	ronmental Protection Martin Luther King I de: W136 ati OH 45268-0001						
8 NAME AND	ADDRESS OF CONTRACTOR (No. street	t county State and	ZIP Code)	(x) 9A.	. AMENDMENT OF SOLICITATION NO.		
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) Westat, Inc. Attn: (b) (4) 1600 RESEARCH BOULEVARD ROCKVILLE MD 208503129					DATED (SEE ITEM 11) A. MODIFICATION OF CONTRACT/ORDER N BHERD19D0001 BHERD19F0210	10.	
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CODE 04	9508120	FACILITY CODI			8/20/2019 IENTS OF SOLICITATIONS		
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	D. OTHER (Specify type of modification	and authority)					
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E. IMPORTAN	T: Contractor ☐ is not	x is required to	o sign this document and	l return	copies to the issuin	g office.	
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					/20/2020 to 08/19/2020. No. 3) is 08/20/2019-08	_	
	te the Contract Offic	er and Co	ontract Speci	iali	st.		
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15B. CONTRA	ACTOR/OFFEROR		15C. DATE SIGNED	16B.		LECTRONIC SIGNATURE	16C. DATE SIGNED
	(Signature of person authorized to sign)				(Signature of Contracting Officer)		12/19/2019

 CONTINUATION SHEET
 REFERENCE NO. OF DOCUMENT BEING CONTINUED
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 OF

 68HERD19D0001/68HERD19F0210/P00001
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NAME OF OFFEROR OR CONTRACTOR Westat. Inc.

	Inc.				
ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
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AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				CONTRACT ID CODE	PA	PAGE OF PAGES		
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P00002		See Block 16C						
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26 West Mail Co	ronmental Protection Martin Luther King D de: W136 ati OH 45268-0001							
8. NAME AND	ADDRESS OF CONTRACTOR (No., street	, county, State and ZIP Code)	(x) 9	A. AMENDMENT OF SOLICITATION NO.				
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			6	8HERD19F0210				
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CODE 04	9508120	FACILITY CODE		08/20/2019				
		11. THIS ITEM ONLY APP	PLIES TO AMEND	MENTS OF SOLICITATIONS				
12. ACCOUNT See Sche	13. THIS ITEM ONLY APPLIES TO M A. THIS CHANGE ORDER IS ISSUED F ORDER NO. IN ITEM 10A.	ODIFICATION OF CONTRACT	oority) THE CHAN	GES SET FORTH IN ITEM 14 ARE MADE IN DMINISTRATIVE CHANGES (such as change Y OF FAR 43.103(b).	THE CONTI	RACT		
	C. THIS SUPPLEMENTAL AGREEMEN	T IS ENTERED INTO PURSU	IANT TO AUTHOR	ITY OF:				
	D. OTHER (Specify type of modification	and authority)						
X	Bilateral Modificati	on - Administra	ative Act	ion				
E. IMPORTANT	T: Contractor ☐ is not	x is required to sign this do	cument and return	copies to the issu	ing office.			
DUNS Num TOCOR: S Alt Invo	nber: 049508120 Samantha Fontenelle M Dice App: Lisa Larime	ax Expire Date:	08/19/20	solicitation/contract subject matter where feasing 20 InvoiceApprover: Sa	mantha			
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Except as prov	vided herein, all terms and conditions of th	e document referenced in Iter	m 9 A or 10A, as h	eretofore changed, remains unchanged and in	n full force ar	nd effect.		
15A. NAME AN	ND TITLE OF SIGNER (Type or print)			NAME AND TITLE OF CONTRACTING OF	FICER (Type	or print)		
			Ма	rk Cranley				
15B. CONTRA	ACTOR/OFFEROR	15C. DATE S		UNITED STATES OF AMERICA	ELECTRON			
	(Signature of parent authorized to sign)		_	(Signature of Contracting Officer)	SIGNATUR	02/04/2020		

 CONTINUATION SHEET
 REFERENCE NO. OF DOCUMENT BEING CONTINUED 68HERD19D0001/68HERD19F0210/P00002
 PAGE 2
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NAME OF OFFEROR OR CONTRACTOR

Westat, Inc.

EM NO.	SUPPLIES/SERVICES QUANT			UNIT PRICE	•	
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	Payment:		İ			
	RTP Finance Center	İ				
	US Environmental Protection Agency					
	RTP-Finance Center (AA216-01)					
	109 TW Alexander Drive					
	www2.epa.gov/financial/contracts					
	Durham NC 27711					
	Period of Performance: 08/20/2019 to 08/19/2020					
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AMENDMENT OF SOLICITATION/MODIFIC	ATION OF CONTRACT		CONTRACT ID CODE	P/	AGE OF PAGES		
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQ	JISITION/PURCHASE REQ. NO.	5. PROJ	ECT NO. (If applicable)		
P00003	See Block 16C	PR-O	W-21-00597				
6. ISSUED BY CODE	CAD	7. ADM	IINISTERED BY (If other than Item 6)	CODE			
CAD US Environmental Protection 26 West Martin Luther King I Mail Code: W136 Cincinnati OH 45268-0001	-						
8. NAME AND ADDRESS OF CONTRACTOR (No., street	, county, State and ZIP Code)	(x) 9A.	AMENDMENT OF SOLICITATION NO.				
Westat, Inc.							
Attn: Susan Mountford		9B.	DATED (SEE ITEM 11)				
1600 RESEARCH BOULEVARD							
ROCKVILLE MD 208503129		100	MODIFICATION OF CONTRACT/ORDER	NO.			
		x 68	. MODIFICATION OF CONTRACT/ORDER I HERD19D0001	NO.			
		68	HERD19F0210				
		10B	. DATED (SEE ITEM 13)				
CODE 049508120	FACILITY CODE	<u> </u>	3/20/2019				
	11. THIS ITEM ONLY APPLIES	TO AMENDM	ENTS OF SOLICITATIONS				
☐ The above numbered solicitation is amended as set for	orth in Item 14. The hour and date s	specified for re	ceipt of Offers	ended 「	is not extended.		
CHECK ONE A. THIS CHANGE ORDER IS ISSUED IORDER NO. IN ITEM 10A.	PURSUANT TO: (Specify authority)	THE CHANG	ES SET FORTH IN ITEM 14 ARE MADE IN	THE CONT	RACT		
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:						
D. OTHER (Specify type of modification X Bilateral - Deobliga	• /						
E. IMPORTANT: Contractor is not	X is required to sign this documen	nt and return	1 copies to the issuir	na office			
14. DESCRIPTION OF AMENDMENT/MODIFICATION							
DUNS Number: 049508120							
TOCOR: Samantha Fontenelle M	ax Expire Date: 08	3/19/202	20 InvoiceApprover: Sar	mantha	Fontenelle		
Alt Invoice App: Lisa Larime	r						
The purpose of this modifica Line Item 001. All other te				\$395.	01 from		
LIST OF CHANGES:							
Reason for Modification: Fun	-						
Obligated Amount for this Mo	dification: -\$395.	01					
Continued							
Except as provided herein, all terms and conditions of the	e document referenced in Item 9 A c						
15A. NAME AND TITLE OF SIGNER (Type or print)			IAME AND TITLE OF CONTRACTING OFF	ICER (Type	or print)		
		Mar	k Cranley				
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNE		INITED STATES OF AMERICA	LECTRON			
(Signature of parson authorized to sign)			(Signature of Contracting Officer)	SIGNATU	RE 09/22/2021		

 CONTINUATION SHEET
 REFERENCE NO. OF DOCUMENT BEING CONTINUED
 PAGE
 OF

 68HERD19D0001/68HERD19F0210/P00003
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NAME OF OFFEROR OR CONTRACTOR

Westat, Inc.

	(B) New Total Obligated Amount for this Award:	(C)	(D)	(E)	(F)
	New Total Obligated Amount for this Award:			1	
	New local obligaced Amount for this Award.	1			
	\$92,825.99				
	Incremental Funded Amount changed: from				
	\$93,221.00 to \$92,825.99				
	CHANGES FOR LINE ITEM NUMBER: 1				
	Obligated Amount for this Modification: -\$395.01				
	Incremental Funded Amount changed from \$93,221.00				
	to \$92,825.99				
	Product/Service code changed from AH91 to AH51				
	NEW ACCOUNTING CODE ADDED:				
	Account code:		i i		
	20-21-B-28E-000B42-2505				
	Beginning FiscalYear 20				
	Ending Fiscal Year 21				
	Fund (Appropriation) B				
	Budget Organization 28E				
	Program (PRC) 000B42				
	Budget (BOC) 2505				
	Job # (Site/Project)				
	Cost Organization				
	DCN-LineID				
	Quantity: 0				
	Amount: \$0.00				
	Percent: 0				
	Subject To Funding: N				
	Payment Address:				
	rayment Address.				
	CHANGES FOR ACCOUNTING CODE:				
İ	20-21-B-28E-000B42-2505-2028CES002-001		i i		
	Amount changed from \$36,221.00 to \$35,825.99				
	Payment:				
	RTP Finance Center				
	US Environmental Protection Agency				
	RTP-Finance Center (AA216-01)				
	109 TW Alexander Drive				
	www2.epa.gov/financial/contracts				
	Durham NC 27711				
	Period of Performance: 08/20/2019 to 08/19/2020				
I				1	